AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) In a telecommunications system having voice communications subject to noise, a distributed noise suppression system for suppressing said noise for a given one of said voice communications, said noise suppression system comprising:

a first noise suppressor, within a first device, giving a first amount of noise suppression level for suppressing noise received by said first device prior to transmission of the noise-suppressed signal to a destination device; and

a second noise suppressor, within said destination device, giving a second amount of noise suppression level for further suppressing the noise-suppressed signal received from said first device to said destination device, whereby the noise associated with said given one of said voice communications is reduced ~~twice~~ by an overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

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2. (Currently Amended) The noise suppression system according to claim 1, wherein ~~said first device is a mobile terminal~~ the optimization is performed as a function of transmission characteristics.

3. (Currently Amended) The noise suppression system according to claim [[1]] 2, wherein ~~said first device is selected from the group consisting of a microphone, terminal, PC, Internet device, and a transmission system~~ said transmission characteristics is determined by the bit rate of the transmitted speech parameters.

4. (Currently Amended) The noise suppression system according to claim [[1]] 2, wherein ~~said destination device is a mobile telephone~~ said transmission characteristics is determined by the codec mode used by the encoder of said first device and by the codec mode used by the decoder of said second device.

5. (Original) The noise suppression system according to claim 1, wherein said destination device is selected from the group consisting of:

a loudspeaker, terminal, PC, Internet device, and a transmission system.

6. (Original) The noise suppression system according to claim 1, further comprising:

an encoder, within said first device and attached to said first noise suppressor, for encoding said noise-suppressed signal from said first noise suppressor prior to transmission to said destination device.

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7. (Original) The noise suppression system according to claim 6, further comprising:

a decoder, within said destination device and attached to said second noise suppressor, for decoding said noise-suppressed signal received from said transmitter prior to said second noise suppressor.

8. (Original) The noise suppression system according to claim 7, wherein said noise-suppressed signal received from said transmitter prior to said second suppressor is subject to signal distortion caused by low bit-rate speech encoding by said encoder, and wherein said second noise suppressor is tuned to suppress said signal distortion.

9. (Original) The noise suppression system according to claim 1, wherein the noise associated with said given one of said voice communications is reduced by said first suppressor by about 6 to 14 dB.

10. (Original) The noise suppression system according to claim 9, wherein the noise is reduced by said first suppressor by about 8 to 10 dB.

11. (Original) The noise suppression system according to claim 10, wherein the noise is reduced by said first suppressor by about 8 dB.

12. (Original) The noise suppression system according to claim 1, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is further reduced by said second suppressor by about 1 to 10 dB.

13. (Original) The noise suppression system according to claim 12, wherein the noise is reduced by said second suppressor by about 2 to 8 dB.

14. (Original) The noise suppression system according to claim 13, wherein the noise is reduced by said second suppressor by about 6 dB

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15. (Original) The noise suppression system according to claim 1, wherein the noise associated with said given one of said voice communications is acoustic.

16. (Original) The noise suppression system according to claim 1, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is from an encoding of said noise-suppressed signal.

17. (Original) The noise suppression system according to claim 1, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is from transmission of said noise-suppressed signal.

18. (Original) The noise suppression system according to claim 1, wherein said first and second noise suppressors employ respective algorithms therein tuned to the respective noises encountered.

19. (Original) The noise suppression system according to claim 18, wherein the first and second noise suppression algorithms adapt dynamically to the respective noises encountered.

20. (Currently Amended) In a telecommunications system having voice communications subject to noise, a mobile telephone having suppression means therein for suppressing said noise for a given one of said voice communications, said mobile telephone comprising:

a first noise suppressor for suppressing noise giving a first amount of noise suppression level received by said mobile telephone prior to transmission of the noise-suppressed signal to a destination device; and

a second noise suppressor giving a second amount of noise suppression level for suppressing a received noise-suppressed signal received from a transmitting device having a first noise suppressor therein, whereby the noise associated with said given one of said voice communications is reduced ~~twice~~ by an overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

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21. (Original) The mobile telephone according to claim 20, further comprising:

an encoder, attached to said first noise suppressor, for encoding said noise-suppressed signal from said first noise suppressor prior to transmission to said destination device.

22. (Original) The mobile telephone according to claim 20, further comprising:

a decoder, attached to said second noise suppressor, for decoding said received noise-suppressed signal received from said transmitting device prior to said second noise suppressor.

23. (Original) The mobile telephone according to claim 22, wherein said noise-suppressed signal received from said transmitter prior to said second suppressor is subject to signal distortion caused by low bit-rate speech encoding by said encoder, and wherein said second noise suppressor is tuned to suppress said signal distortion.

24. (Original) The mobile telephone according to claim 20, wherein the noise associated with said given one of said voice communications is reduced by said first suppressor by about 6 to 14 dB.

25. (Original) The mobile telephone according to claim 24, wherein the noise is reduced by said first suppressor by about 8 to 10 dB.

26. (Original) The mobile telephone according to claim 25, wherein the noise is reduced by said first suppressor by about 8 dB.

27. (Original) The noise suppression system according to claim 20, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is further reduced by said second suppressor by about 1 to 10 dB.

28. (Original) The mobile telephone according to claim 27, wherein the noise is reduced by said second suppressor by about 2 to 8 dB.

29. (Original) The mobile telephone according to claim 28, wherein the noise is reduced by said second suppressor by about 6 dB.

30. (Original) The mobile telephone according to claim 20, wherein the noise associated with said given one of said voice communications is acoustic.

31. (Original) The mobile telephone according to claim 20, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is from an encoding of said noise-suppressed signal.

32. (Original) The mobile telephone according to claim 20, wherein the noise associated with said given one of said voice communications, after suppression by said first noise suppressor, is from transmission of said noise-suppressed signal.

33. (Currently Amended) In a telecommunications system having voice communications subject to noise, a method for suppressing said noise for a given one of said voice communications, said method comprising the steps of:

noise suppressing, by a first noise suppressor giving a first amount of noise suppression level, acoustic noise received by a first device prior to transmission of the noise-suppressed signal to a destination device; and

further noise suppressing, by a second noise suppressor giving a second amount of noise suppression level within said destination device, said noise-suppressed signal received from said first device.

reducing the noise associated with one of the noise suppressors by an overall amount of noise suppression level, characterized by said overall amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

34. (New) The method of claim 33 wherein the optimization is performed as a function of transmission characteristics.

35. (New) The method of claim 34 further comprising determining said transmission characteristics by the bit rate of the transmitted speech parameters.

36. (New) The method of claim 34 further comprising determining said transmission characteristics by the codec mode used by the encoder of said first device and by the codec mode used by the decoder of said second device.

37. (New) The noise suppression system of claim 20, wherein the optimization is performed as a function of transmission characteristics.

38. (New) The noise suppression system of claim 37, wherein said transmission characteristics is determined by the bit rate of the transmitted speech parameters.

39. (New) The noise suppression system of claim 37, wherein said transmission characteristics is determined by the codec mode used by the encoder of said first device and by the codec mode used by the decoder of said second device.

40. (New) A coder for use in a noise suppression system, the coder comprising:

a first noise suppressor, giving a first amount of noise suppression level for suppressing noise received by said first device prior to transmission of the noise-suppressed signal to a destination device, wherein in the destination device a second amount of noise suppression level occurs for further suppressing the noise-suppressed signal,

whereby the noise associated with said given one of said voice communications is reduced by an overall amount of noise suppression level, wherein said first amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

41. (New) The coder of claim 40, wherein the optimization is performed as a function of transmission characteristics.

42. (New) The coder of claim 41, wherein said transmission characteristics is determined by the bit rate of the transmitted speech parameters.

43. (New) A vocoder for use in a noise suppression system, the coder comprising:

a second noise suppressor, giving a second amount of noise suppression level for suppressing noise received from a transmission of a noise-suppressed signal from a transmitting device, wherein in the transmitting device a first amount of noise suppression level occurs for suppressing the noise-suppressed signal,

whereby the noise associated with said given one of said voice communications is reduced by an overall amount of noise suppression level, wherein said second amount of noise suppression level is obtained by optimizing a linear combination of said first and said second amount of noise suppression levels.

44. (New) The vocoder of claim 43, wherein the optimization is performed as a function of transmission characteristics.

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45. (New) The vocoder of claim 44, wherein said transmission characteristics is determined by the bit rate of the transmitted speech parameters.

46. (New) The vocoder of claim 44, wherein said transmission characteristics is determined by the codec mode used by the encoder of said first device and by the codec mode used by the decoder of said second device.